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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,818	10/01/2003	Masahiro Yamamoto	088473-0154	8776

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EXAMINER

PILKINGTON, JAMES

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/674,818	YAMAMOTO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	James Pilkington	3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 September 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 2002-290345 (Japan), filed on 10/02/2002.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4-5, and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokoro et al. (US Patent Number 4,631,043).

Re clm 1, 4, and 7, Tokoro ('043) discloses a system for controlling a V-belt type continuously variable transmission (CVT) (4) for a vehicle, comprising: a source of a line pressure (c1, 19-10), primary (6,7) and secondary (8,9) pulleys arranged on input and output sides, the pulleys being subjected to primary-pulley and secondary pulley pressures produced from the line pressure, a V-belt (11) looped over the primary (6,7) and secondary (8,9) pulleys (see figure 10), the V-belt (11) engaging in V-grooves of the primary (6,7) and secondary pulleys (8,9), the V-grooves being changed in width through a differential pressure between the primary-pulley (6,7) and secondary-pulley

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(8,9) pressures to achieve a target shift ratio of the CVT (c2, l29-46); and an electronic control unit (ECU) (100) which controls the line pressure, the ECU (100) being programmed to: input a first torque signal (from torque sensor 29) obtained by estimating an engine torque in accordance with vehicle operating conditions and the target shift ratio (c4, l32-46, c2, l29-46); input a second torque signal (from torque sensor 30) obtained by detecting the engine torque, synthesize the first and second torque signals to provide an estimated-torque signal (c2, l40; a ratio is calculated), and control the line pressure in accordance with the estimated-torque signal (c 2, l29-46).

Re clm 2, 5, and 8, ToKoro ('043) discloses the ECU is further programmed to set the first torque signal as the estimated-torque signal when the engine torque rises (inherent, if not disclosed).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokoro ('043) in view of Hendriks et al. (US Patent 5,431,602).

Re clm 3, 6, and 9, Tokoro ('043) discloses all of the claim limitations (as described above).

Tokoro ('043) does not disclose the ECU is further programmed to: subject the first torque signal to differential processing and smoothing processing; determine a sum of the first torque signal as subjected and the second torque signal, and determine a greater one of the first and second torque signals, determine a smaller one of the sum and the greater one; and set the smaller one as the estimated-torque signal.

Hendriks ('602) teaches an ECU that subjects the first torque signal to differential processing and smoothing processing (averaging device 22 and summing device 25); determine a sum of the first torque signal as subjected and the second torque signal and determine a greater one of the first and second torque signals(summing device 25; c 6, l 50-60; c 7, l 15-25), determine a smaller one of the sum and the greater one; and set the smaller one as the estimated-torque signal (c 6, l1-27). Hendriks ('602) teaches the advantage of the processing of the control units is improved efficiency and an extended life (c1, l 37-41).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the ECU of Tokoro ('043) to subject the first torque signal to differential processing and smoothing processing; determine a sum of the first torque signal as subjected and the second torque signal, and determine a greater one of the first and second torque signals, determine a smaller one of the sum and the greater one; and set the smaller one as the estimated-torque signal, as taught by Hendriks ('602), to improve the efficiency and life of the system.

### ***Response to Arguments***

6. Applicant's arguments filed September 14, 2006 have been fully considered but they are not persuasive.

7. Applicant argues that Tokoro does not disclose an ECU programmed to "input a first torque signal obtained by estimating an engine torque in accordance with vehicle operating conditions and the target shift ratio; input a second torque signal obtained by detecting the engine torque; synthesize the first and second torque signals to provide an estimated-torque signal; and control the line pressure in accordance with the estimated-torque signal" and the method of inputting the signals.

The examiner argues that Tokoro does indeed disclose first and second torque signals (from sensors 29 and 30) that are clearly connected to the ECU program in Figure 1. Both the sensors detect or estimate engine torque both directly and indirectly. Sensor 29 directly measures the engine torque along the shaft (2) of the engine and sensor (30) indirectly measures the engine torque along the output shaft (30) of the system. These two signals are sent to the ECU to program, therefore the method of inputting the signals is clearly disclosed.

8. The examiner notes that the applicant does not argue the Hendriks reference used under 35 U.S.C. 103(a). The applicant only argues that claims 3, 6 and 9 are allowable since they are dependent on claims that the applicant deems as allowable.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hendriks (5,337,628), Matsuda (5,776,028), Asayama (6,454,675) and Yamamoto (6,919,269) disclose a CVT system with an ECU that controls the line pressure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Pilkington whose telephone number is 571-272-5052. The examiner can normally be reached on 7:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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RICHARD RIDLEY  
SUPERVISORY PATENT EXAMINER